

## PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT  
(PCT Article 36 and Rule 70)

REC'D 14 SEP 2004

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Applicant's or agent's file reference P03966PCT	<b>FOR FURTHER ACTION</b>	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)
International application No. PCT/GB 03/02580	International filing date (day/month/year) 16.06.2003	Priority date (day/month/year) 17.06.2002
International Patent Classification (IPC) or both national classification and IPC B60C17/04		
Applicant RUNFLAT INTERNATIONAL LIMITED		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 4 sheets.

3. This report contains indications relating to the following items:

- I  Basis of the opinion
- II  Priority
- III  Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV  Lack of unity of invention
- V  Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI  Certain documents cited
- VII  Certain defects in the international application
- VIII  Certain observations on the international application

Date of submission of the demand 16.01.2004	Date of completion of this report 14.09.2004
Name and mailing address of the international preliminary examining authority:   European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer  Bibollet-Ruche, D Telephone No. +31 70 340-1027



# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB 03/02580

## I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

### Description, Pages

1-10 as originally filed

### Claims, Numbers

1-11 filed with telefax on 23.08.2004

### Drawings, Sheets

1/4, 2/4, 4/4 as originally filed  
3/4 filed with telefax on 23.08.2004

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- the language of publication of the international application (under Rule 48.3(b)).
- the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in written form.
- filed together with the international application in computer readable form.
- furnished subsequently to this Authority in written form.
- furnished subsequently to this Authority in computer readable form.
- The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- the description, pages:
- the claims, Nos.:
- the drawings, sheets:

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5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes:	Claims	1-11
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-11
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-11
	No:	Claims	

**2. Citations and explanations**

**see separate sheet**

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**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Reference is made to the following document:

D1: WO-A-9911476

2. Document D1 discloses a run-flat device for fitting on the outer circumference of a wheel inside an inflatable tyre, said device comprises an annular ring (10) made up of a plurality of arcuate segments (12,14) having a flange at each end that overlaps circumferentially the corresponding flanges of adjacent segments, which flanges are interconnected by clamping means equally spaced around the ring (cf. figure 1 and 2) that imparts to each segment (12,14) a circumferential clamping force and an axial clamping force to urge the segments (12,14) circumferentially and axially towards each other (cf. page 7, lines 11-14, lines 26-30, figure 3) wherein the clamping means comprises a first and a second clamping bolts (28,62) which pass through a pair of spaced holes formed in the adjacent flanges.

The subject-matter of claim 1 differs from this known D1 in that there further comprises a retaining plate having two captive nuts mounted thereon, for securing the first and second clamping bolts and to prevent lateral twisting of the flanges.

The subject-matter of claim 1 is therefore new (Article 33(2) PCT).

The problem to be solved by the present invention may be regarded as to reduce lateral twist of the segments cf. points 7 and 8 of the letter of reply dated 23.08.2004.

The solution of claim 1 is neither known nor suggested by the cited prior art documents, for which reason the subject-matter of claim 1 appears to involve an inventive step and could fulfill the requirements of Article 33(3) PCT.

3. Claims 2 to 11 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

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4. The following should be noted too:

In order to meet the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the document D1 should be mentioned in the description and these documents identified therein.

CLAIMS

1. A run-flat device (13) for fitting on the outer circumference of a wheel (11) inside an inflatable tyre, characterised in that said device (13) comprises an annular ring (14) made up of a plurality of arcuate segments (15) interconnected at each end (20, 21) by clamping means (23) equally spaced around the ring (14) that imparts to each segment (15) a circumferential clamping force and an axial clamping force to urge the segments (15) circumferentially and axially towards each other.  
5
- 10 2. A run-flat device according to claim 1 wherein the clamping means (23) comprises a slot (28) provided in one of the flanges at one end of each segment that includes an inclined surface (29) that faces away from the immediately adjacent segment (15), a pair of spaced holes (24, 25) that align with corresponding holes (24, 25) in an adjacent segment (15), a wedge (31) provided in the slot (28), said wedge (31) having an inclined surface (32) that contacts the inclined surface (29) of the slot (28), and having a hole (31(a)) that aligns with a first hole (33) of the pair of spaced holes (33, 34) in the flanges (26, 27), and a first clamping bolt (23(a)) that passes through the first hole (33) of the pairs of holes (33, 34) and the hole (31(a)) in the wedge (31) whereby tightening of the first bolt (23(a)) causes the wedge (31) to urge the segments (15) towards each  
15 other circumferentially, and the clamping means (23) further includes a second bolt (23(b)) substantially parallel to the first bolt (23(a)), said second bolt (23(b)) passing through the second hole (34) of the pair of holes (33, 34) in the flanges (26, 27) and through a clamping plate (38) in contact with a side face of the segment (15) whereby tightening of the second bolt (23(b)) clamps the flanges (26, 27) of the segments (15)  
20 together axially, and the combined clamping effect of the two bolts (12(a), 12(b)) restricts pivotal movement of the segments (15) relative to each other.  
25

REPLACED BY  
ART 34 AMDT

3. A run-flat device according to claim 1 or Claim 2 wherein there is provided a split inner sleeve (16) for fitment to the rim of the wheel (11) and onto the outer circumference of which the segments (15) sit.

5 4. A run-flat device according to claim 3 wherein the inner circumference of the inner sleeve (16) is profiled to match the profile of the outer circumference of the wheel (11).

10 5. A run-flat device according to claim 4 or claim 4 wherein the outer circumference of the inner sleeve (16) has a recess (41), and each segment (15) has a flange (42) on its inner circumferential surface that engages in the recess (41) on the inner sleeve (16).

15 6. A run-flat device according to any one of claims 2 to 5 wherein the inner sleeve (16) comprises a central band (17) and two side bands (18) made of a material that is more resilient than the material of the central band (17).

7. A run-flat device according to claim 6 wherein the central band (17) is made of nylon.

8. A run-flat device according to claim 6 or claim 7 wherein the side bands (18) are made of polyurethane.

20 9. A run-flat device according to any one of the preceding claims wherein the segments (15) are identical in shape.

25 10. A run-flat device according to any one of the preceding claims wherein the segments have a flange (26, 27) at each end that overlaps circumferentially the corresponding flanges (26, 27) of adjacent segments (15).

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ART 34 AMDT**

11. A run flat device according to any one of the claims 2 to 10 wherein a shear pin (43) is provided between the inner sleeve (16) and each of the segments (15) to resist circumferential movement of the sleeves relative to the inner sleeve(16) during normal running of the wheel.

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ART 34 AMDT

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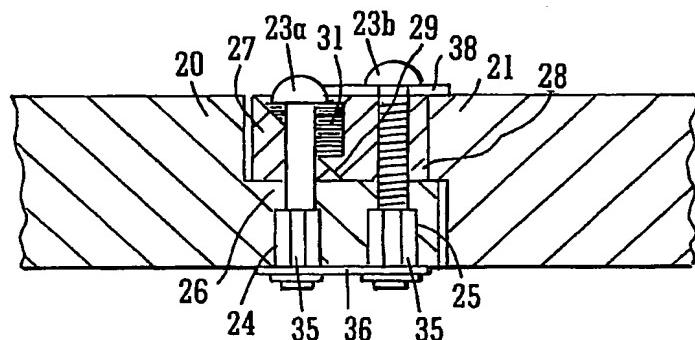


FIG. 4

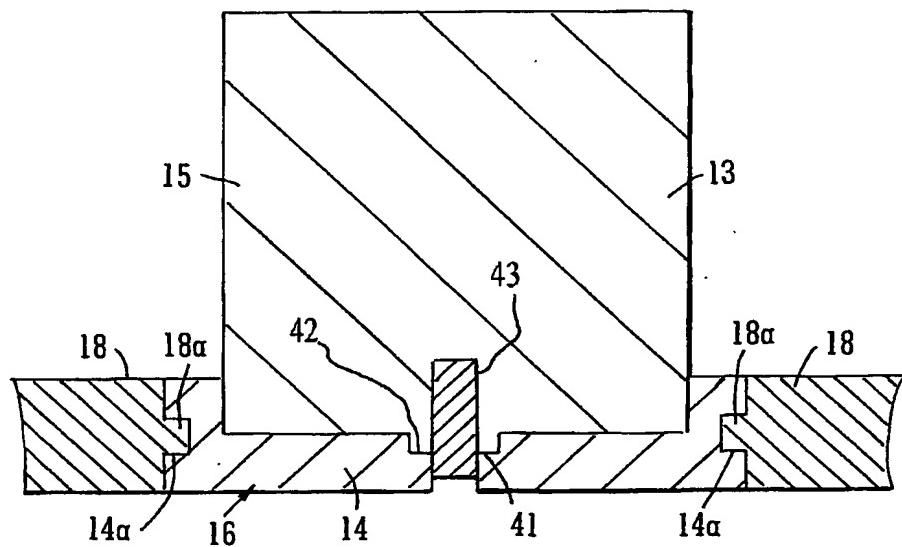


FIG. 5

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